

850 *Messrs. Dyson and Edney, Satellite of Neptune.* LXV. 8,

but this might be expected, seeing that the observations were made by quite a large number of observers, and the spot was certainly more difficult to observe than the average Jovian spot. Mr. Denning has amply explained the reason for some of the larger discordances in the *Monthly Notices*, vol. lxiv. p. 242.

It would be interesting to apply these and some other considerations to the planet *Mars*, and to the case of a fictitious planet of the same size and at the same distance as *Jupiter*, but rotating in half the time that the latter does; but this must be deferred.

Hove: 1905 June 5

Addendum to "Discussion of the Greenwich Observations of the Satellite of Neptune" in Monthly Notices, Vol. LXV., pp. 570-583, by Messrs. Dyson and Edney.

1. It should have been stated that the quantities $s \sin dp$ and ds dealt with in this paper are in the sense "Tabular—Observed," and the resulting values of da , dN , &c., are subtracted from the tabular places to give the results of the observations.

2. On p. 581, although the result is not affected, it would have been more correct to compare the values of N and I found at Greenwich for 1903.1 with the actually observed values found by Dr. Struve for 1890.3, instead of with the values found from the interpolation formula he derived from a discussion of his own and previous observations. The figures are

$$\begin{array}{llll} \text{H. Struve} & \dots & 1890.4 & N = 185^{\circ}27 \quad I = 119^{\circ}16 \\ \text{Greenwich} & \dots & 1903.1 & N = 187^{\circ}58 \quad I = 117^{\circ}40 \end{array} \left. \vphantom{\begin{array}{l} \text{H. Struve} \\ \text{Greenwich} \end{array}} \right\}$$

In 12.7 years $dN = +2^{\circ}31$, $dI = -1^{\circ}76$; and the annual changes of N and I are

$$dN = +0^{\circ}182 \text{ and } dI = -0^{\circ}138 \text{ for } 1896.7.$$

Dr. Struve's result for 1874.0 being

$$dN = +0^{\circ}148 \text{ and } dI = -0^{\circ}165.$$

For the mean date 1896.7

$$\psi_2 = 40^{\circ}9 \text{ and } \sin \gamma d\theta = 0.212$$

giving

$$1896.7 \quad N = 186^{\circ}44 \quad I = 118^{\circ}28 \quad \psi_2 = 40^{\circ}9 \quad \sin \gamma d\theta = 0.212$$

to compare with Dr. Struve's result,

$$1874.0 \quad N = 182^{\circ}78 \quad I = 121^{\circ}99 \quad \psi_1 = 52^{\circ}6 \quad \sin \gamma d\theta = 0.208$$

The close agreement of the determinations of $\sin \gamma d\theta$ is satisfactory.

The figures on p. 581 should be replaced by

$$\begin{aligned} N_1 M_1 &= 52^{\circ}6 & N_2 M_2 &= 40^{\circ}9 \pm 2^{\circ}5 \\ M_1 N_1 N_2 &= 121^{\circ}99 & M_2 N_2 N_1 &= 61^{\circ}72 \\ \text{and} & & N_1 N_2 &= 3^{\circ}66 \end{aligned}$$

Solving the triangles, the values found for the inclination, &c., are the same as those previously given.

3. The inclination of *Neptune's* equator to the plane of its orbit derived from these figures is about 29° .

The Meteors from Biela's Comet. By W. F. Denning.

Undoubtedly the rich shower of *Andromedids* visible in the light of the nearly full moon on 1904 November 21 formed the most important meteoric event of the past year. The only observer of it in the United Kingdom appears to have been the Rev. W. F. A. Ellison, of Enniscorthy, who at $7^h 25^m$ G.M.T. saw eight meteors in fifteen seconds, and twenty-four altogether between $7^h 25^m$ and $8^h 25^m$. Twenty-two others were observed between $8^h 25^m$ and $9^h 25^m$, after which the numbers "fell off greatly." The radiant by eye estimation from forty or fifty tracks was at $21^{\circ} + 50^{\circ}$. The meteors generally were very brilliant, with trains, and a few of the more conspicuous objects were recorded as under :—

	G.M.T.			From	To
1905. Nov. 21	h	m	> 1	$308 + 47$	$280 + 39\frac{1}{2}$
"	8	49	♀	Low in W.	Andromedid
"	9	8	♂	$337 + 7$	$329 - 7$
"	9	16	♂	$354 + 30$	$348 + 18$
Nov. 26	7	35	♀	$52 + 27$	$64 + 8\frac{1}{2}$
28	8	50	> ♀	$215 + 50$	$215 + 46$

The display apparently continued until November 28.

It was also observed by K. Bohlin, of Stockholm (*Ast. Nach.* 3997), who says that the radiant of twenty-eight meteors (the paths of which he gives in his paper) recorded on 1904 November 21, 5^h to 11^h (mid-European time) was found by the method of least squares to be about 3° distant from γ *Andromedæ* at

$$26^{\circ} 2' + 44^{\circ} 10' (1900)$$

The meteors were of considerable brilliancy. The first